Review # 1

General Comment: The Intermediate Scenarios should be 50 and 100 cm. The idea of having two intermediate scenarios also makes sense, especially given the two-meter high scenario. But I think that a range of 50 to 100 cm would be better than 70-140 cm.

Response: The SLCS team met and decided to revise our Intermediate Scenarios based on this comment. We did not adopt 50 and 100 cm, but we changed our intermediate scenarios from 1.4 m and 0.7 m to 1.2 m and 0.5 m respectively. Additionally, we no longer use semi-empirical approaches to derive both intermediate scenarios, which addresses the comment on over-reliance on this methodology.

General Comment: Additional help for Generating Local Scenarios To make it easier to adapt to local conditions, where a historical record is often available, the draft should report what the baseline run was for each of the 4 scenarios over the last 50 years, as well as providing projections into the future. While provision of a quadratic equation is probably fine for interpolating, the document should include a table indicating the absolute rise and rate of sea level rise for a few key years for each scenario...I am not sure whether they are the most appropriate years for analysis, but I do think that suggesting common focus years would have some value.

Response: We feel that providing interim rates and amounts of SLR would be overstating precision and antithesis to the scenario approach. The methods section gives reader's enough guidance to make those estimates on their own, and we added a citation to a recent paper by Flick et al that provides additional guidance to readers who might want to derive interim rates and amounts. Several sections of the document were re-structured into Section 5 which provides a template for augmenting the Global Mean SLR Scenarios with additional local and regional information. We also reference two NOAA reports that provide further detail on developing local sea level scenarios.

Review #2

Figure 11: Suggest a similar figure for the actual rates of sea level change
Response: Figure 3 is now a map of relative sea level trends.

Figure 4: Figure 5a: I suggest an additional figure with the relative rates corrected for GIA and possibly other known land motions. Similarly for 5b. On 5b, it is impossible to identify individual gauges. Perhaps the figure could be split into regions. Similarly for fig 6
Response: Figure 12 has the contribution from GIA and can be used with Figure 3 to determine relative rates corrected for GIA. Figure 3 is now a map of relative sea level trends.

General Comment: I would suggest a restructuring, putting the historical before the projections.
Response: We re-structured the document and put historical evidence and trends first.

General Comment: The historical regional material does not seem to relate well/ inform the regional projections.
Response: We clarified Sections 3.1, 3.2 and 3.3 to add specific trends, and we specify from the outset that the main purpose of the SLCS is to provide global mean SLR scenarios not regional projections.

General Comment: I thought the global projections were poorly justified. They certainly cover the range of projections but I am unconvinced that the full range is justified.
Response: Section 2 now explains our scenario approach, which helps to define the purpose of the extended range. Section 4 now includes an explanation for how we assessed confidence in the full range. Section 4.1 provides a more focused description on the key uncertainties affecting the range including specific statements on the utility of all the scenarios. Section 4.2 provides additional evidence for the Highest Scenario.

General Comment: There is not much about extremes and how sea level change will impact extremes
Response: Section 5.3 focuses the brief summary of literature on extremes. Other sections of the NCA are addressing these topics including the Climate Scenarios and Coastal Sector chapter author teams

General Comment: There is no discussion of sea levels beyond 2100. Sea level will not stop changing in 2100. Also, there is essentially no discussion of the variability about the long-term trends. The impacts will be felt through the combination of the trends and the variability.
Response: There are requirements of the NCA regarding the timeframes to be considered, specifically 25 and 100 years. So we focused primarily on 100 years and

did not address longer timeframes. Section 2 has been improved to discuss decadal variability as evidenced by historical trends. Additionally, we feel that the range of end-of-century estimates provides a sense of the variability about the long-term trend. Inter-decadal variability between now and 2100 would require new modeling and analysis and is beyond the scope of this effort.

General Comment It is not clear what is the base line for the projections, and to lesser extent the projections year
Response: Section 3.3 explains the starting point and methodology for constructing the scenario curves. Further clarification was added to the caption of Figure 9

Executive Summary

Line 39: glaciers are also critically important
Response: Revised language

Line 49: I am not aware of any credible studies projecting more than 2 m by 2100. I assume the study implicated here is the Rohling et al. Study. However, is that applicable to the 90 years to 2100?
Response: Revised language. We no longer use this sentence in the Executive Summary or Figure 9 (which summarizes estimates in the literature). We cite this reference and state that we do not consider it plausible.

Line 53: I do not know what this means?
Response: Revised language

Historical Records of Sea Level Change

Line 252: since 8000 yrs ago, sea level has risen considerably (meters)
Response: Revised language for clarification

Line 266: Suggest this reference to lunar tidal cycles is irrelevant and misleading
Response: Removed

Global Mean Sea Level Scenarios

Line 454: I question whether this is a physically plausible "best" estimate
Response: Revised language

Line 460: Bindoff et al does not give the projections
Response: Removed reference

Line 465: Church et al (2011) did not say this, you could refer to the church et al. Book.
Response: Clarified reference and revised language

Line 466: This paragraph is stated with too much certainty and many would dispute these statements
Response: Added additional references and revised discussion of supporting evidence

Line 466: there are some recent studies which suggest quite low rates of ice sheet contribution. And the issue is not just ice sheet melting but also changes in accumulation and also any dynamical response
Response: Section 4.2 provides a synthesis of the literature on ice sheet loss including inter-annual and spatial variability

Using Global Scenarios in Coastal Vulnerability

Line 751: This does not seem accurate to me and does not refer to the more recent Hunter publication in Climatic Change (2011)
Response: Reference removed and discussion clarified

Review #3

Figure 10 : Shouldn't regional teams also be considering Storms and Other variables?
Response: Other sections of the NCA are addressing these topics including the Climate Scenarios and Coastal Sector chapter author teams

Figure 4 (old figure): Needs to be bulked up
Response: Figure removed

Figure 5: Maybe mention annual cycles? Include source of plot
Response: The source of the plot is shown in the upper left hand corner.

Figure 7: Need to explain "anomalies" better for interdisciplinary readers
Response: Anomalies are further explained in the introductory part of Section 3 and given more discussion in the sub-sections of this part of the report.

Figure 8: Pfeffer isn't associated with SRES scenarios? Not clear from the figure/caption.
Response: Those estimates associated with SRES scenarios were labeled along the axis and the caption was clarified

Figure 9: No effort to scale confidence intervals from Figure 8? I guess that would be especially hard for "High" scenario
Response: Confidence intervals, likelihoods, and probabilities were not associated with any of the estimates because this approach is not consistent with the intended development and use of scenarios for the NCA. We provide a richer, referenced discussion of different scenario approaches in Section 2, including an explanation for the lack of probabilities and likelihoods for individual scenarios.

General Comment: Please add an executive summary
Response: Done

General Comment: Bold and italicize the scenario names. Also, standardize how you refer to the scenarios
Response: Scenario names are standardized.

General Comment: Correct figure numbers throughout
Response: Done

General Comment: Define GIA forebulge
Response: Added reference to description of Glacio-isostatic adjustment

Section 2.1: This entire section is great stuff, but it needs to be explained in a way more accessible to a broad readership? Jargon/terms need to be explained

Response: This entire section has been revised for clarity and definitions for wind-stress curl, ENSO, and PDO have been added to the Glossary

Section 3: Develop text stating that the scenarios recognize the possibility that A2 could be exceeded
Response: Our Highest Scenario is not linked to an emissions scenario that exceeds the limits of A2. Thus we do not provide discussion of higher emissions. However, we do cite the IPCC SRES report, and we explain the utility of the Highest and Intermediate-High scenarios.

Section 4.1: This section seems like an afterthought and needs to be built up
Response: See revised Section 5

Section 4.3: "particular" significance…"could be" Cite Yin
Response: Revised language

Section 5: Not "Knowledge Gaps" but Stakeholder Engagement. A gaps section could be good, but might take a lot of work. E.g. coast to coast LiDAR, etc
Response: This section was removed

Section 6: Check References. Not all the literature cited is included
Response: References checked

Sections 2.1 and 2.2: Make sure section headers are consistent
Response: See revised Sections 2.1 and 2.2

Background on NCA Process

Line 222: IPCC is revising projections not scenarios
Response: Revised language

Historical Records of Sea Level Change

Line 260: Mean sea level has remained "relatively" stable
Response: Revised language

Line 262-272: Fix sentence re: satellite altimeters
Response: Sentence removed

Line 262-272: Fix sentence regarding lack of predictive capability using satellites. Add "underlying causes such as regional ocean warming"
Response: Sentence removed

Line 265: Hasn't it slowed in most recent years?

Response: The recognized satellite-derived trend is still greater. We did not discuss variability at smaller temporal scales.

Line 303: Just wind or SST and ocean circulation too?
Response: We revised Section 3.1 for clarity and recognize that this discussion of causal mechanisms is still an area of active debate

Line 308 – 318: Is "wind stress curl" too technical for this report? Maybe explain better for non-technical audience
Response: This entire section has been revised for clarity and definitions for wind-stress curl, ENSO, and PDO have been added to the Glossary

Line 308-309: As in all the variance? No
Response: This entire section has been revised for clarity and definitions for wind-stress curl, ENSO, and PDO have been added to the Glossary

Line 334: Explain cyclical nature better
Response: Removed reference to cyclical and revised language

Line 355: Add "possible" causes of anomalous subsidence in Carolinas
Response: Revised language

Line 365: Need a reference. Not sure I believe this
Response: Revised language and added reference

Line 370-376: If no fixed periodicity, then don't say "cyclic"
Response: Removed

Global Mean Sea Level Scenarios

Line 458: "partial" ice sheet contributions
Response: Revised language

Line 459: Add "additional" contributions. AR4 range was subject to the important caveat of additional ice-sheet contributions
Response: Revised language

Using Global Scenarios in Coastal Vulnerability and Risk Assessment

Line 656: Define geoid
Response: Added footnote

Line 683: Why was there uplift in Florida?
Response: The paper mentioned in this section does not provide a causal mechanism. Removed text relating to Florida

Line 700-701: Reference for the Alaska uplift rates?
Response: Added reference

Line 736-746: Maybe use AMOC instead of THC. The conclusion about AMOC is too boldly stated. This whole section is too detailed and technical for this report
Response: Most of this section was removed and edited down to relevant findings

Line 799-809: Spell out VLM. Add sea level inundation
Response: Text was removed from this section

Review #4

General Comment: This will be dominated by the response to anthropogenic forcing. I would agree that natural variability is important on a regional scale over up to several decades - but globally, and in the longer run also locally, future SLR is dominated by the anthropogenic signal (which means rise will accelerate) plus local land subsidence/uplift. Somehow this message does not come out clearly - I think this paper overall suffers a bit from not seeing the wood for the trees.
Response: The entire report was edited multiple times since review for readability and clarity. Furthermore, we added an Executive Summary, which highlights key findings in a more accessible fashion.

Executive Summary

Line 36-37: However, "medium high confidence" is a bit vague, or is this term defined more within the NCA framework? I think for the readers it would be nice to have a feel for what this means, e.g. is this approx. the 5-95% confidende range? (As such the numbers would make sense to me, leaving a small probability to that the outcome could be below or above this range - which indeed in both directions would seem very unlikely to me.)
Response: We added ">9 in 10 chance." Additionally, Section 4 now includes a table explaining how we defined confidence. Section 4 also includes references for this methodology.

Line 38-40: Not a clear statement - only when reading the main report did it dawn to me that you are referring to IPCC, and that this sentence probably means to say that IPCC did not fully account for ice sheet loss.
Response: Revised language

Line 42-43: best estimate of what? of the upper limit?
Response: Revised language

Line 59-62: I don't understand this sentence; why would 20 years of altimetry not resolve variations on the 10-year time scale? Why do you talk about 10-30 year here and not, say, 20-50 or whatever? Also, I think it is important to understand the difference in decadal variability between the tide gauge record (where this is an artifact of limited sampling) and the altimeter (which captures the real global mean changes and shows much less variability) - see Rahmstorf et al., Climate Dynamics 2011 (all our refs available via the PIK sea level website: http://www.pik-potsdam.de/sealevel/.
Response: Revised language

Line 65-67: But SLR since the mid-1800s is already dominated by anthropogenic warming - so why do you put this down to natural variability?
Response: Revised language

Line 109-112: Semi-empirical models do not make assumptions about ice sheet loss, they merely link observed past sea level changes to observed past global temperature changes in a simple equation that is calibrated by the data. They do not divide SLR into components like thermal expansion, ice sheets.
Response: Revised language

Line 167-169: This sentence is rather vague; I guess you are talking about ENSO and PDO. Is there really good evidence that this has influence on *long term* and *global* sea level trends?
Response: Revised language for clarification

Line 170-172: So what magnitude of sea level change can you get from PDO? Again, I am not sure what a coastal manager would make of this sentence. He is told to take some risk into account, but how?
Response: Revised language in Section 3.1 and 3.2 to define possible amounts for coastal managers to consider addressing anomalies and how these amounts might be used in scenarios.

Background on NCA Process

Line 207: How about mentioning "vital infrastructure" - I guess a power station, port or airport is more than just "commerce".
Response: Done

Historical Records of Sea Level Change

Line 252: 8,000 years bp is a bit bold - I think it would be safer to say that sea level has been relatively stable over the past 4,000 years, and well-documented for at least the past 2,000 years (Kemp et al. PNAS 2011). In any case a ref for this claim is needed.
Response: Changed to 2000 years and reference to Kemp et al added.

Line 253: I don't see how a change in salinity could affect global sea level - other than via the addition of freshwater, which is already covered in the remainder of the sentence, so this is not an additional factor. A change in salinity is only a symptom of this freshwater addition but not in itself a cause of global sea-level change.
Response: Reference to salinity removed.

Line 256-266: Here it should be mentioned that tide gauge data alone show a roughly 3-fold acceleration of the rate of SLR, from about 1 mm/yr in the late 19th/ early 20th century to about 3 mm/yr over the past 20 years or so. The recent tide gauge trends are virtually identical to the altimeter trend, Prandi, P., Cazenave, A. & Becker, M., GRL 2009. This is important because climate skeptics claim that there is no real acceleration, it is just an artifact of changing from tide gauges to satellites, which is untrue of course. The acceleration is seen within the same data set, cite Church and White 2006 for this as well.

Response: Section 3 was revised based on this comment. We added a reference to Prandi et al and consulted with NOAA's Center for Operational Oceanographic Products and Services (COOPS) on the meaning of the satellite data. We provide a richer, referenced discussion of different scenario approaches in Section 2, including an explanation for the lack of probabilities and likelihoods for individual scenarios. We are not providing predictions or projections, but rather a range of scenarios that can be used for vulnerability and risk assessment. This approach is consistent with the NRC (1987) and the USACE (2011) and is considered valuable for risk assessment so that decision makers don't consider one likely scenario. The SLCS team consulted with experts at NOAA's Center for Operational Oceanographic Products and Services (COOPS) regarding the 20th century trend derived from tide gages and the 1992-2010 trend derived from satellites. The discussion in Sections 2 and 4 was included to explain our rationale. We added ">9 in 10 chance." Additionally, Section 4 now includes a table explaining how we defined confidence. Section 4 also includes references for this methodology. Section 4.1 provides a more focused description on the key uncertainties affecting the range including specific statements on the utility of all the scenarios. Section 4.2 provides additional evidence for the Highest Scenario.

Line 273-275: I would object to this statement. First of all, the IPCC AR4 has already concluded that there is an acceleration of SLR over the 20th Century which can be attributed to global warming in a formal way. Also, correlation analysis shows a highly significant correlation of the rate of SLR and global temperature, see Vermeer & Rahmstorf 2009, Rahmstorf et al. 2011. To say "it is not clear" suggests we just don't know anything, while in reality I think one can say it is highly likely that the acceleration is due to global warming, even if perhaps not finally settled.
Response: Revised language

Line 283: This is really dominated by postglacial uplift/subsidence, which is not a tectonic process.
Response: Revised language

Global Mean Sea Level Scenarios

Line 469: could cite Van den Broeke et al, http://www.staff.science.uu.nl/~broek112/home_files/MB_pubs_pdf/2011_vdBroeke_SurvGeophys.pdf
Response: Added reference

Using Global Mean Sea Level Scenarios for Coastal Vulnerability and Risk Assessment

Line 604-605: This ENSO and PDO material is given a lot of prominence here, but is that really justified by its importance? I thought this document focuses on the global rise, there I certainly can't see a great role for ENSO and PDO
Response: Revised language

Line 611-615: I find this a highly vague statement; I don't think a coastal planner would get much useful information out of this. The sentence exemplifies a problem throughout this paper: the language often does not seem clear and to the point enough. What specifically do you want a coastal planner to take away from this?
Response: Section 5 and the whole report was revised to be more useful for coastal management

Line 751: When siting Hunter the text should mention what his main result/message is, not only a whole lot of caveats.
Response: Reference removed

Review #5

Figure 5: suggest using the plot with the annual sea level signal removed here - leaving the annual signal in icrease the "noise" in visualizing the true nature of the trend and it's variations
Response: We subsequently communicated with Reviewer 5 regarding the annual signals and agree that they are useful for referencing the discussion in Section 3.2

Figure 1: Re-label "Causes of Sea Level Rise". Not all the processes shown operate on global scales
Response: Figure re-labeled

General Comment: Who is the intended readership of this document? If it includes public officials, coastal managers, decision-makers, relevant stakeholders, and ultimately the general public, use of jargon should be reduced and fuller definitions added to the Glossary.
Response: The entire report was edited multiple times since review for readability and clarity.

General Comment: "…medium high confidence that …global mean sea level will rise 0.2-2 m by 2100". The expression medium high confidence resembles that of the IPCC which assigns specific probability ranges to their "confidence" terminology. Is this the intent? If so, it has not been explicitly stated in this report.
Response: We added ">9 in 10 chance." Additionally, Section 4 now includes a table explaining how we defined confidence. Section 4 also includes references for this methodology.

General Comment: The rationale behind the choice of the four adopted global sea level change scenarios is given, as are major causes of regional sea level variations. However, no guidance is provided for the end user on how to modify the global SLR scenarios for local conditions. While many different factors are involved whose contributions to RSLR are not always known for a given locality (e.g., role of land water storage, gravitational effects, changes in dynamic ocean circulation), as a first step, corrections can be made for GIA (http://www.psmsl.org/train_and_info/geo_signals/gia/peltier/) as well as land subsidence (groundwater extraction, sediment compaction, etc.) or tectonic uplift (e.g., southern Alaska, parts of Pacific Northwest). Several studies have included historic trends of vertical land motion and other groups are beginning to consider it (e.g., Mote, P. et al., 2008. Sea level rise in the coastal waters of Washington State. A Report of the University of Washington Climate Impacts Group and the Washington Department of Ecology; Kirshen et al., 2008. Climate change and coastal flooding in Metro Boston: impacts and adaptation strategies. Clim. Change 90:453-473; Horton, R., et al., 2010. Climate observations and projections, in Rosenzweig, C. and Solecki, W., eds. Climate Change Adaptation in New York City: Building a Risk Management Response (and Annex C, 210-215), Annals of the New York Academy of Sciences, 1196, 41-85).

Response: Several sections of the document were re-structured into Section 5 which provides a template for augmenting the Global Mean SLR Scenarios with additional local and regional information. We also reference two NOAA reports that provide further detail on developing local sea level scenarios.

General Comment: Spelling consistency: “gauge” vs. “gage”.
Response: Edited throughout

Glossary: Add the following terms: AMO, AMOC, ENSO, Hadley Circulation, Joint Probability Method, Halosteric, PDO, Subduction, Thermosteric
Response: Done. Hadley Circulation was removed from the report and, therefore, was not included in the Glossary.

Executive Summary

Line 53: change “best estimate” to “upper bound estimate”
Response: Revised language

Line 122-124: The report could include general guidance on ways of incorporating data on vertical land motions into regional assessments (see below).
Response: Several sections of the document were re-structured into Section 5 which provides a template for augmenting the Global Mean SLR Scenarios with additional local and regional information. We also reference two NOAA reports that provide further detail on developing local sea level scenarios.

Historical Records of Sea Level Change

Line 258: 100000 years not 100 years
Response: Revised language

Global Mean Sea Level Scenarios

Line 480-481: Since it isn’t possible to establish the likelihood or probability of sea level rise reaching 2 m, then why imply “medium high confidence” (lines 33-34, 465)?
Response: We added ">9 in 10 chance." Additionally, Section 4 now includes a table explaining how we defined confidence. Section 4 also includes references for this methodology.

Line 485-486: rephrase as “…2m is a physically plausible upper bound…”
Response: Revised language

Line 487-492: Not clear. Explain better
Response: Revised language

Line 494-499: This too could be explained more clearly for the non-expert

Response: Lines 478-499 were revised for clarity

Line 494-505: The 0.2 and 2 m SLR scenarios by 2100 bracket the range of estimates from most current studies and thus provide reasonable and plausible lower and upper bounds. Since probability estimates for these scenarios are not available, all have been treated as equally probable (e.g., lines 507-508). However, many modeling studies suggest that future SL would probably lie closer to the intermediate range than to the 2 extreme end members (although we can't state it quantitatively). The 0.2 m SLR seems unrealistically low, if global warming due to increasing greenhouse gas emissions continues to accelerate (as the latest evidence seems to indicate) and therefore sea level is likely to rise faster than the historic trend. While the 2 m SLR may correspond to the fastest theoretically possible ice sheet melting within a century, the high end is very uncertain due to the lack of good dynamic ice flow models and timescales of ice responses. Therefore, rather say that the 0.2-2 m figures represents reasonably plausible estimates of lower and upper limits of global mean SLR by 2100. The evidence for continued (and accelerating) global warming suggests that the 0.2 m rise would be unrealistically low. If it's included "to capture the role of natural variability observed since the mid-1800s", then why imply it has an equal "medium high confidence" rating along with the other 3 scenarios?
Response: Confidence intervals, likelihoods, and probabilities were not associated with any of the estimates because this approach is not consistent with the intended development and use of scenarios for the NCA. We provide a richer, referenced discussion of different scenario approaches in Section 2, including an explanation for the lack of probabilities and likelihoods for individual scenarios. We are not providing predictions or projections, but rather a range of scenarios that can be used for vulnerability and risk assessment. This approach is consistent with the NRC (1987) and the USACE (2011) and is considered valuable for risk assessment so that decision makers don't consider one likely scenario. The SLCS team consulted with experts at NOAA's Center for Operational Oceanographic Products and Services (COOPS) regarding the 20th century trend derived from tide gages and the 1992-2010 trend derived from satellites. The discussion in Sections 2 and 4 was included to explain our rationale. We added ">9 in 10 chance." Additionally, Section 4 now includes a table explaining how we defined confidence. Section 4 also includes references for this methodology. Section 4.1 provides a more focused description on the key uncertainties affecting the range including specific statements on the utility of all the scenarios. Section 4.2 provides additional evidence for the Highest Scenario.

Line 503: Add some references to show that sea level would continue to rise as temperatures increase.
Response: Revised language

Line 507-508: See comments above regarding assuming an equal probability for all four scenarios. The end members bracket a physically plausible range of values, but their occurrence may be less likely than that of the intermediate values.

Response: Confidence intervals, likelihoods, and probabilities were not associated with any of the estimates because this approach is not consistent with the intended development and use of scenarios for the NCA. We provide a richer, referenced discussion of different scenario approaches in Section 2, including an explanation for the lack of probabilities and likelihoods for individual scenarios. We are not providing predictions or projections, but rather a range of scenarios that can be used for vulnerability and risk assessment. This approach is consistent with the NRC (1987) and the USACE (2011) and is considered valuable for risk assessment so that decision makers don't consider one likely scenario.

Line 535: suggest adding: It is important to select a starting point in time from which to move forward in time with the scenarios. Present Mean Sea Level (MSl) for the US coasts is determined from long-term NOAA tide gauge records and is currently referenced to the ...
Response: Revised language

Line 540: suggest adding: NOAA uses the NTDE as the basis for all tidal datums (i.e, Mean High Water and Mean Lower Low Water) and uses NTDE MSL as the reference for presentation of relative mean sea level trends (Mhttp://tidesandcurrents.noaa.gov/sltrends/index.shtml). MSL ...
Response: Revised language

Using Global Scenarios in Coastal Vulnerability and Risk Assessment

Line 572-583: Perhaps discuss a bit more how this ancillary information should be integrated with the SLR scenarios developed here. Which specific assessment teams will address these issues?
Response: Several sections of the document were re-structured into Section 5 which provides a template for augmenting the Global Mean SLR Scenarios with additional local and regional information. We also reference two NOAA reports that provide further detail on developing local sea level scenarios

Line 589: Could reference be made to other sections of the National Climate Assessment that will deal in greater depth with these issues? (e.g., Coastal sector?)
Response: Revised language

Line 592-599: Although regional and sectoral teams will provide additional locality-specific factors for estimating future SLR, this report could provide generalized guidelines or an outline for a common methodology.
Response: Several sections of the document were re-structured into Section 5 which provides a template for augmenting the Global Mean SLR Scenarios with additional local and regional information. We also reference two NOAA reports that provide further detail on developing local sea level scenarios

Line 605-607: AMOC = Atlantic Meriodional Overturning Circulation; AMO = Atlantic Multidecadal Oscillation. The first refers to an important component of the deep

ocean circulation, the other to an atmospheric interannual to interdecadal atmospheric circulation pattern. Which is it?
Response: Revised language

Line 640: Briefly explain why the deviation. (Introduce it here even though it's discussed elsewhere in greater detail).
Response: Revised language

Line 641-651: Simplify the explanation of GIA for the lay reader. Also mention the glacial rebound centered around Hudson Bay and the forebulge collapse south of the former ice sheet (for example, people will want to understand why a large part of the East Coast is sinking) (Figs. 11 and 12).
Response: Revised language

Line 642: So far we've been discussion regional variations. Not to be confused with time variations.
Response: Revised language

Line 647-657: Give examples of where post-glacial rebound is causing uplift, where subsiding. This will help people understand the observed RSLR variations better
Response: Revised language

Line 660: Satellite altimetry is a source [add] of information about regional SL variability
Response: Revised language

Line 670: Southern Alaska is also uplifting due to tectonism. It is seismically active (e.g., lines 700-701).
Response: Revised language

Line 684: suggested additional text: The international community has recognized the need to upgrade the observational infrastructure to include co-location of continuous GPS receivers and tide gauges (Wopplemann et al, 2007); see http://www.sonel.org/stations/cgps/surv_update.html. Nationally, NOAA has recognized the need to co-locate these systems as much as possible and has already integrated repeat static GPS measurements on tidal bench marks as part of the operation and maintenance of the National Water Level Observation Network (NWLON).
Response: Revised language

Line 700: That may help explain, in part, why there has been no significant SLR in the Northwest, e.g., Chap 2.2.
Response: Revised language

Line 703-705: Give examples of variation in RSLR rates in San Francisco Bay, before discussing the Gulf of Mexico

Response: Done

Line 771-773: AMOC = Atlantic Meriodional Overturning Circulation; AMO = Atlantic Multidecadal Oscillation.
Response: Revised and added to Glossary

Line 772: Define “halosteric” and “thermosteric” in the Glossary
Response: Added to Glossary

Section 4 and 5 (OLD): Tide gauges and satellite altimetry are ways of studying regional variations; they don’t explain the causes of such variations. Ice melting is a separate issue from ocean circulation, but they are lumped together in section 4.1, although as mentioned, ice melt can affect ocean currents. Nothing is said about regional variations or changes in thermal expansion and its effects on SL.
Response: See revised Section 3